

WHAT IS CLAIMED IS:

1. A computer system comprising:
a plurality of processing resources operable to process data;
- 5 a plurality of power supplies associated with the processing resources, the power supplies operable to supply power to the processing resources; and
a power management engine associated with the power supplies, the power management engine operable to adjust
10 the power supplies to optimize power consumption.
2. The system of Claim 1 further comprising a plurality of supply tables associated with the power management engine, the supply tables operable to store a
15 plurality of power supply supply side information.
3. The system of Claim 1 further comprising a plurality of demand tables associated with the power management engine, the demand tables operable to store a
20 plurality of processing resource demand side information.
4. The system of Claim 1 further comprising the power management engine operable to adjust the power supplies by powering up selected power supplies.
- 25 5. The system of Claim 1 further comprising the power management engine operable to adjust the power supplies by powering down selected power supplies.

6. The system of Claim 1 further comprising the resource management engine operable to adjust the power supplies by rotating which power supplies provide power to the processing resources.

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7. The system of Claim 1 further comprising the power management engine operable to adjust the power supplies in accordance with an enterprise wide power management strategy.

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8. The system of Claim 1 wherein the processing resources comprise a plurality of servers.

9. The system of Claim 1 wherein the processing resources comprise a plurality of racks containing a plurality of servers.

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10. The system of Claim 1 further comprising:
a resource management engine associated with the processing resources: and
the resource management engine operable to scale the number of the processing resources in relation to a plurality of demand requirements.

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11. The system of Claim 1 further comprising the power management engine operable to monitor power supply start up including a plurality of potential failure modes associated with power supply sequencing to detect power supply startup failure and switch to an alternate power supply.

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12. A method for strategic power sequencing in a computer system including multiple processing resources and multiple power supplies, the method comprising:

receiving a demand requirement;

5 determining if the demand requirement requires a change in operating processing resource;

determining if the change in operating processing resources requires a power supply change; and

10 adjusting the number of operating power supplies to satisfy the change in processing resources.

13. The method of Claim 12 wherein determining if the change in operating processing resources requires a power supply change comprises consulting a plurality of
15 supply tables and a plurality of demand tables.

14. The method of Claim 12 wherein determining if the change in operating processing resources requires a power supply change comprises using the supply tables and
20 demand tables to determine the optimal power supply capacity required for the processing resource change.

15. The method of Claim 12 wherein adjusting the number of operating power supplies comprises instructing
25 the power supply to power up or power down relative to the demand requirements needed to bring processing resources online and offline.

16. The method of Claim 12 wherein adjusting the number of operating power supplies comprises turning off currently operating power supplies.

5 17. The method of Claim 12 wherein adjusting the number of operating power supplies comprises turning on additional power supplies.

10 18. The method of Claim 12 wherein adjusting the number of operating power supplies comprises rotating which power supplies provide power to the processing resources.

15 19. The method of Claim 12 wherein adjusting the number of operating power supplies comprises adjusting the power supplies in accordance with an enterprise wide power management strategy.

20 20. The method of Claim 12 wherein adjusting the number of operating power supplies comprises determining if the power supplies efficiently satisfy the processing resource change.

25 21. The method of Claim 12 wherein determining if the change in operating processing resources requires a power supply change comprises deciding if the power supplies are adequate for the processing resource change.

22. A method for managing power consumption in a computer system including multiple processing resources and multiple power supplies, the method comprising:

predicting future demand requirements;

5 determining if a processing resource change is needed to efficiently meet the future demand requirements;

determining if the processing resource change requires a power supply change;

10 scaling the processing resources in advance to meet the future demand requirements; and

adjusting the power supplies in advance to meet the processing resource change.

15 23. The method of Claim 22 further comprising dynamically adjusting for global occurrences that affect the demand requirements.

24. The method of Claim 22 wherein adjusting the
20 power supplies in advance comprises powering up selected power supplies to satisfy the processing resource change.

25 25. The method of 22 wherein adjusting the power supplies in advance comprises powering down selected power supplies to address the processing resource change.